

BIBLIOGRAPHICAL NOTICES.

Plantæ Javanicæ Rariores, descriptæ iconibusque illustratæ, quas in Insula Java, annis 1802—1818, legit et investigavit THOMAS HORSFIELD, M.D., e siccis descriptiones et characteres plurimarum elaboravit JOANNES J. BENNETT; observationes structuram et affinitates præsertim respicientes passim adjecit ROBERTUS BROWN. Londini, apud H. Allen et socios. Part 2 and 3.

WE must refer (vol. ii. pp. 214, 294) to our notice of the first number of this important work for some observations elicited from us by our high respect for Dr. Horsfield, and by our sense of gratitude to the Board of Directors of the East India Company for the liberal spirit with which they have uniformly encouraged the scientific and literary labours of the distinguished men who have had the good fortune to serve under them in the East, and who for the last half century especially have reflected so much honour upon the service in which they have been employed.

Among these eminent men no one stands more prominent for profound attainments in natural science than Dr. Horsfield, and it is deeply to be lamented that the little encouragement given by the public to works like the present, profound and accurate in research and beautifully illustrated, deprives us of the hope of his indefatigable labours and vast collections being adequately appreciated, except by those who consult the Museum of the East India Company.

The two parts of Dr. Horsfield's work now before us would have been noticed earlier, but from an expectation that we should have had ere this the entire work. But the accuracy which distinguishes all his publications has led to an inevitable delay in the completion of the present one, and we can no longer hesitate to lay before our readers a brief analysis of the portion which has appeared since our first notice.

We hailed the '*Plantæ Javanicæ Rariores*' as one of the most important and interesting contributions made in this country to the cause of botany, important from the precious observations which it contained of Mr. Brown upon structure and affinities, and interesting to ourselves from the evidence it afforded of the talents of Mr. Bennett, on whom the labour has principally devolved. Attached as we are personally to that gentleman, not only for his sterling qualities of character, and for the courtesy with which he discharges his duties as Secretary of the Linnæan Society and as Assistant in the Botanical Department of the British Museum, but also as the inheritor of that high and affectionate respect which we and a large circle of naturalists cherished towards his lamented brother, we hailed Dr. Horsfield's work with pride as

affording such unquestionable evidence of Mr. Bennett's claim to a high rank among botanists; and it is with no ordinary emotions of pleasure that we again observe in him that patient study and depth of observation which have so pre-eminently distinguished those remarkable men who have preceded him in connexion with the Banksian Herbarium. He has nobly acquitted himself in the present work of the public responsibility of his situation in our National Museum, and in hailing him as the pupil of Mr. Brown, we cannot award him a higher meed of praise than by saying he is worthy of his intimate association with that great man.

No one aware of the zoological taste and labours of Dr. Horsfield will be surprised at his seeking the assistance of Mr. Bennett in the present work, for no one who has not made botany an exclusive study can, in the present advanced state of the science, do justice to collections, made, like Dr. Horsfield's, between thirty and forty years ago. The determination and description of species has become in itself, to be faithfully done, an arduous undertaking, and how far the present work surpasses a mere detail of them and of genera we can only imperfectly attempt to show by the brief analysis we offer of it.

The two parts before us contain 20 plates and 134 pages of letter-press. A fourth part, with the five remaining plates, &c., will appear in a short time, completing the work. The figures, drawn by Mr. Curtis, are admirable for their precision and elegance.

It is impossible, within the limits assigned to us, to do justice to many parts of the work. We would refer especially to the important observations on *Cyrtandraea* and the synopsis of its genera, on *Dialium*, &c. &c., and the elaborate article on *Pterocymbium* and its family, to show how thoroughly the respective subjects have been treated, not only with immediate reference to the plant itself, but the historical detail and the remarks on affinities, &c. which arise out of it. Such minute research, learning and accuracy, while they give a sterling and enduring value to Dr. Horsfield's work, equally reflect credit upon the authors and their country; and whatever may be the sense of obligation which Dr. Horsfield entertains for the generous patronage he has met with from the Directors of the East India Company, he may proudly refer to this admirable work, and to his splendid collections at the India House, for the honour he has reflected upon the Company by his scientific labours.

We resume our analysis with the twenty-fifth article, *Loxonia acuminata*, the plate of which was given in the first number, but the text reserved for the second. On the subject of this plant, Mr. Brown enters into a detailed examination of the order *Cyrtandraceae*, Jack, to which it belongs, and of its affinities, and con-

cludes by referring that order to *Gesneriaceæ*, of which he distinguishes three tribes, viz. *Gesneriæ*, *Besleriæ* and *Cyrtandreeæ*. Of the latter he describes in detail the modifications of the several organs; and on the subject of the stigma, and the relations of its divisions to the parietal placentæ in the compound ovarium, adds that elaborate and highly important disquisition which we have published entire in our eleventh volume*. A synopsis of the genera of this remarkable tribe is appended to the article; and is followed by the characters of the genera in greater detail, and of the sections into which they are divisible, with an enumeration of the species referable to them, and characters of many new ones.

The next article relates to *Horsfieldia aculeata*, Bl., a genus named in honour of the excellent naturalist to whom we are indebted for the present work. This is described by Mr. Bennett as one of those anomalous genera of *Umbelliferaæ*, which scarcely admit of being arranged in any of the existing tribes into which that order has been divided. In many particulars it approaches *Araliaceæ*, and thus serves as an additional link of connexion between the families. With reference to the *Araliaceæ*, the author corrects a mistake originating with Don and adopted by DeCandolle, according to which the seeds of that order are described as erect, while they are in reality pendulous as in *Umbelliferaæ*. The valvate æstivation of the corolla is more complete in *Horsfieldia* than in any other true *Umbellifera*.

Tristania obovata is described by Mr. Bennett as the only species of that genus that has yet been discovered beyond the limits of New Holland. It approaches most nearly among described species to *Tristania laurina*.

Euonymus Javanicus, Bl., belongs to that section of the genus in which the seeds continue to retain their original position with reference to the placenta. The general rule, that the raphe properly belongs to that side of the ovulum which is next to the placenta, was first laid down by Mr. Brown, who, at the same time, pointed out some remarkable exceptions. In the case of certain species of *Euonymus*, however, he showed that the exception was confirmatory of the rule, the change taking place subsequent to the completion of the ovula by the resupination of the seeds. M. Adolphe Brongniart has since stated the exceptions to be numerous, and has instanced the families of *Rhamneæ* and *Ilicineæ*; but Mr. Bennett, in the present article, shows that in those families also the raphe in the young ovulum is internal, although at a subsequent period it becomes external or lateral by a greater or less degree of torsion in the funiculus by which the ovulum is

* See p. 35.

attached. The validity of the rule is thus most strongly confirmed by the cases of supposed exception.

In the next article Mr. Bennett establishes a new genus, to which he gives the name of *Stylodiscus*, on the *Andrachne trifoliata* of Roxburgh, a Euphorbiaceous tree extremely abundant throughout the east of Asia and the adjacent islands. It had escaped the author that this genus had been previously published in the 'Edinburgh New Philosophical Journal,' by Messrs. Wight and Arnott, under the name of *Microelus*.

Of the subject of the thirtieth article, *Dialium Indum*, L., Mr. Bennett gives a long historical notice, comparing the genus with *Arouna*, Aubl., and *Codarium*, Sol., with both of which it is most intimately connected. He does not hesitate to retain the union of *Arouna* with *Dialium*, proposed by Vahl and adopted by subsequent botanists; but he is inclined to regard *Codarium* as distinct on account of its rudimentary petal and the adherent stipes of its ovarium. On the latter subject he states that *Codarium* differs from all the other known genera of *Cæsalpineæ* in which the stipes of the ovarium is adherent to the tube of the calyx, by the adhesion taking place anteriorly and corresponding to the odd segment of the calyx and the outer margin of the fruit, while in all the other genera it is posterior, and corresponds with the suture of the legumen. Coincident with this difference there occurs a corresponding difference in the order of the reduction of the stamina; the two remaining stamina in *Codarium* being opposite to the two posterior segments of the calyx, while in the order generally, and especially among *Cæsalpineæ* with adherent stipites, it is usually the posterior stamina that are first lost or become abortive when an irregular reduction takes place. Attention is then directed to a character, which Mr. Bennett states to have been several times pointed out to him by Mr. Brown as affording strong indications of affinity, and consequently useful characters in a systematic point of view, in many of the genera of *Cæsalpineæ*, viz. the sculpture or appearance of sculpture on the surface of the seeds. Of the utility of this character numerous instances are adduced; and the article is concluded by an examination of the origin of the corneous mass which, in so many of the genera of *Cæsalpineæ*, performs the office of albumen.

Another Leguminous genus, to which Mr. Bennett gives the name of *Euchresta*, is established on the *Andira Horsfieldii* of Leschenault. The distinction between this plant and the American genus to which it was previously referred is too striking to permit of their continued association; but *Andira* and *Euchresta*, together with *Geoffroya*, are nevertheless intimately connected. Mr. Bennett discusses at some length their proper position among *Leguminosæ*, and comes to the conclusion that DeCandolle's tribe

of *Geoffræa* is utterly untenable from the heterogeneous character of the genera assembled under it. The same opinion has been expressed by the late lamented M. Vogel and by Mr. Bentham; and the latter has placed *Geoffroya* and *Andira* in a section of *Dalbergiæ*, distinguished by pendulous seeds and a straight embryo, an arrangement in which (with the addition of *Euchresta*) Mr. Bennett perfectly coincides. He does not, however, agree with Mr. Bentham in placing the genus *Brownea* among *Mimoseæ*, believing that it unquestionably belongs to a remarkable section of *Cæsalpinea*, characterized by their abruptly pinnated leaves, the two conspicuous bractæ enveloping the base of their calyx, and the adherence of the stipes of their pod posteriorly to its persistent tubular base.

A singular Hedysarcous genus, to which Mr. Bennett has given the name of *Mecopus*, on account of the extreme length of the stipes of its pod, which far exceeds the length of the pod itself, forms the subject of the next article. It comes nearest to *Uraria* and *Eleiotis*; from both of which it differs in the character just indicated, and in the sudden retrofraction of the stipes at its base, by means of which the pod is immersed and the seeds entangled in the compact comose terminal heads which are seated, like so many diminutive birds' nests, at the extremity of its early denuded branches. The only known species, *Mecopus nidulans*, Benn., is *Uraria retrofracta* of Dr. Wallich's List, no. 5678. Mr. Bennett also characterizes another genus related to *Eleiotis* (to which the single species has been referred by Messrs. Wight and Arnott as *Eleiotis Rottleri*) under the name of *Oxydium*. The remainder of the article is devoted to an examination of the various and curious contrivances adopted in the different subdivisions of the Linnæan genus *Hedysarum* for the protection of the pod and its contents during their progress to maturity.

Of these contrivances *Phylacium bracteosum*, another new genus of *Hedysarææ*, and the subject of the following article, affords a remarkable instance. In this curious plant the subtending bractæ of the floriferous pedicels enlarge very greatly at the time of flowering and during the progress of the fruit to maturity, and at the same time their stipes or petiole bends upwards, while the pedicel of the flower curves downwards. By means of these mutual displacements the flower is brought into relation with the under surface of the bractea, which then folds backwards along its midrib, bringing its margins into contact with each other, and thus forms a compressed cucullate bag for the protection of the flower and fruit. At the period of maturity these enveloping bractæ readily fall off together with their contents, and doubtless contribute much by their levity to the dispersion of the seeds. Mr. Bennett compares this singular œconomy with that of *Fle-*

mingia strobilifera, of *Zornia*, and of *Geissaspis*, and points out the curious modifications which occur in each in the origin of their bracteæ and in the mode of their application to the protection of the fruit. *Phylacium* differs from all other Hedysareous genera in its climbing habit, by means of which, as well as in some other characters, it approaches *Phaseoleæ*.

Parochetus maculatus, the subject of article thirty-four, is a pretty species of a Papilionaceous genus founded by Buchanan Hamilton, and described in Don's 'Prodromus Floræ Nepalensis,' the immediate affinities of which do not appear to have been yet satisfactorily made out.

Saccopetalum Horsfieldii is described by Mr. Bennett as constituting a new genus of *Annonaceæ*, and forming with *Miliusa*, Lesch., and *Hyalostemma*, Wall., part of a well-marked tribe of that family, characterized by its 3-sepalous calyx, with the three petals of the outer series free and sepaloid, and the three of the inner series cohering valvularly at their edges; the cohesion being so complete and continuing to so late a period as to have induced M. A. DeCandolle and Dr. Wallich to describe *Miliusa* and *Hyalostemma* as gamopetalous. These genera are compared with *Saccopetalum* in reference to their more important organs; and various particulars of structure in other genera of the family are discussed with reference to their arrangement, distinction and relations with each other.

In the two succeeding articles Mr. Bennett describes two species of the genus *Saurauja* of Willdenow, *S. bracteosa*, DeC., and *S. Blumiana*. On the subject of these plants he enters into an examination of their claim to be placed in the family of *Ternstræmiaceæ*, which (notwithstanding their wide discrepancy from *Ternstræmia* itself) he is constrained to admit. He calls attention to a remarkable tubular prolongation of the endostome, or that portion of the inner membrane of the seed surrounding its aperture, which fills up the aperture of the testa like a cork in *Saurauja* and other Ternstræmiaceous genera; and particularly notices the great abundance of acicular crystals or raphides produced between the testa and the inner membrane in *Saurauja*.

The thirty-eighth article has for its subject a very pretty genus of the order *Meliaceæ*, to which Dr. Wight has given the name of *Munronia*. The species here figured is described by Mr. Bennett as the *Munronia Javanica*. One of the plants belonging to this genus was described and figured by Dr. Wallich under the name of *Turraea pinnata*; and this gives occasion to Mr. Bennett to enter at length upon the history of the genus *Turraea*; to examine its characters, comparatively with those of *Munronia*; and to give a synopsis of the two genera, with descriptions of several new species. These genera, together with a nearly related genus

from New Holland named by Mr. Brown *Leptophragma*, and with *Quivisia*, *Sandoricum* and *Mallea*, deviate from the ordinary relation of parts in having the cells of their ovarium (and consequently their compound central placentæ) opposite to the divisions of the calyx, and not (as in the great majority of *Dicotyledones*, when the number of parts is equal) opposite to the petals. But the ordinary relation recurs in *Melia* and in the entire family of *Cedreleæ*, or at least in all the isomerous genera of that family which Mr. Bennett has had the opportunity of examining.

“In some cases,” he remarks, “(as for instance in *Hypericinæ*), this modification appears to be of ordinal value; but in the present instance, and in *Campanulaceæ*, it is only generic; and in a very remarkable case (*Leptospermum*) pointed out to me by Mr. Brown, both modifications occur in the same genus. The last-mentioned case is more especially deserving of notice, inasmuch as *Leptospermum* is only distinguishable from another genus of the same family (*Fabricia*) by the latter possessing the full complement of cells of the ovarium (that is to say, a number equal to the divisions both of calyx and corolla), and thus combining both modifications in one. In *Turraea* we have a somewhat analogous instance, some of the species having an ovarium consisting of ten cells, or even, according to M. Ad. de Jussieu, of more.”

Phoberos of Loureiro, and a species of that genus called by Mr. Bennett *Phoberos Rhinantha*, as having been formed into a genus by Dr. Blume under the name of *Rhinantha*, are the subject of the following article. Mr. Bennett gives a detailed history of the genus *Phoberos*, and of others with which it has from time to time been confounded; and enters into an examination of the characters and limits of the family of *Flacourtiaceæ* to which it belongs, and of *Bixineæ*, nearly all the genera referred to which he agrees with M. A. Richard and M. Kunth in uniting to *Flacourtiaceæ*. He doubts the existence in any genus of the family of that remarkable reticular attachment of the seeds over the entire surface of the cavity of the pericarp, which in the character given by DeCandolle is attributed to the whole family. He believes that *Kuhlia* of Prof. Kunth is not sufficiently distinct from *Azara*; that *Ascra*, Schott, is not essentially different from *Trilix*, L., and that both should be compared with *Banara* and *Prockia*; that *Dasyanthera*, Presl, is not distinct from *Phoberos*; and that *Christannia salicifolia* of the same author is identical with *Pineda incana* of Ruiz and Pavon. Among published genera he rejects from the family *Ryania*, including *Patrisia* (which Mr. Brown has shown to belong to *Passifloreæ*, to which *Erythrospermum* also makes a near approach), *Kiggelaria*, *Melicytus*, *Hydnocarpus*, *Mayna*, Raddi (the two latter, together with *Gynocardia*,

Roxb., forming part of a new family indicated by Mr. Brown and established by Dr. Blume under the name of *Pangieæ*, and *Pi-paraea*, Aubl. (long since determined by Mr. Brown not to be distinct from *Alsodeia*); and adds to it, on the authority of Mr. Brown, *Xylosma*, Forst., of which, as well as of *Banara* and *Prockia*, he gives an amended character. *Prockia serrata*, Willd., described by Swartz under the name of *Lightfootia* (a name pre-occupied by L'Héritier), he characterizes under the name of *Thiodia*; and for the *Prockia integrifolia* and *Prockia theæformis* of Willdenow, he adopts as a generic name the sectional name *Aphloia* proposed by DeCandolle. To these species, which are widely distinct from *Prockia*, M. Achille Richard gave about the same time the generic name of *Neumannia*.

The last article of the second part relates to a curious and in some respects anomalous genus established by Dr. Blume under the name of *Polyosma*, and by him referred to *Caprifoliaceæ*, but afterwards placed by DeCandolle in his newly established family of *Corneæ*. Between this family and another previously established by DeCandolle under the name of *Alangieæ*, Mr. Bennett believes the relation to be so intimate, that not even an artificial distinction can be made between them. He compares *Polyosma* with *Cornus*, *Marlea* and *Alangium*, and calls particular attention to the remarkable changes that take place in the ovarium of *Polyosma* while the fruit is advancing to maturity; that organ being unilocular, and in the young state furnished with two parietal placentæ, each supporting an indefinite number of ovules, which are speedily reduced to a single ascending ovulum with copious albumen and a superior radicle. Mr. Bennett confesses his inability to reconcile these anomalies with the structure of *Corneæ*; but states that he is "indebted to Mr. Brown for directing his attention to another family, with the characters of which, previous to the changes that take place in the ovarium after impregnation, it fully agrees; and to which, especially as regards the structure of ovarium, a point of great importance, it is certainly much more nearly related than to *Corneæ*. Mr. Brown proposes therefore to append *Polyosma* to *Escalloniaeæ*, notwithstanding its fruit reduced to a single seed, the large size of that seed, and the increased proportion and firmer consistence of its albumen. This approximation receives some confirmation from its resemblance in habit to *Anopterus*, a genus strictly referable to that family." The characters of six species of the genus are given; three of them being from Java, one from the hills adjoining Sylhet, one from Singapore, and one from New South Wales.

The forty-first article, commencing the third part, has for its

subject a Javanese genus, nearly related to *Brucea*, and called *Picrasma* by Dr. Blume. Mr. Bennett points out the differences between this genus and *Brucea*, and adds to it a Nepaulese species doubtfully referred to *Brucea* in Dr. Wallich's List. He regards also as belonging to *Picrasma*, but forming a subgenus, *Nima quassioides* of Buchanan Hamilton, which Don had referred to *Simaba*. He notices several plants that have been from time to time regarded as either actually belonging to *Brucea*, or at least as very intimately related to it. Of these *Lepta* and *Tetradium*, two obscure genera of Loureiro, which have been singularly bandied about by systematic writers, are proved, by the examination of specimens from Loureiro himself, to belong to *Xanthoxylum*, including in that genus *Fagara*, as proposed by M. Kunth. *Xanthoxylum Clava Herculis* of Loureiro (not of Linnæus) is shown on the same authority to belong to a genus distinguished from *Xanthoxylum* by the want of sterile stamina in its female flowers, and its sessile peltate stigma surmounting two collaterally biovulate ovaria. *Ailantus gracilis* of Salisbury, referred by DeCandolle to *Brucea*, is proved by a specimen from Salisbury himself not to be distinct from *Brucea Sumatrana*, Roxb. With regard to the position of *Brucea* and *Picrasma* in the natural system, Mr. Bennett ventures doubtfully to suggest their approximation to *Simarubææ*, but professes himself far from satisfied with respect to their real affinities.

Lasiolepis paucijuga, together with a second species, *L. multijuga*, collected by Mr. Cuming in the island of Mindanao, form a new genus, which appears to Mr. Bennett to be closely related to *Harrisonia*, R. Br., and to have no other near affinity. These two genera are also, as M. Adr. de Jussieu has already observed of *Harrisonia*, most nearly related to *Simarubææ*, although not so closely as to admit of their being absolutely referred to that order.

Pangium edule, Reinw., a tree of great importance in the domestic œconomy of the Malays, and abundantly cultivated throughout the Malayan islands, has hitherto been botanically known only through the character of the genus published by Professor Reinwardt, and by the proposal of Dr. Blume to found on it a family to be named *Pangieæ*, in which he includes the genera *Hydnocarpus* and *Vareca* of Gærtner. This family was some years ago indicated by Mr. Brown in a verbal communication to M. Zuccarini, in which he referred *Hydnocarpus* and *Gynocardia*, Roxb., to a distinct family then unnamed. Of this family, and of the three genera *Pangium*, *Gynocardia* and *Hydnocarpus* (all of which are referred by Prof. Endlicher to *Hydnocarpus*), Mr. Bennett gives detailed and distinctive characters. He agrees with Roxburgh in referring *Vareca*, Gærtn., to *Casearia*; and states that the three species of which Roxburgh has composed

his own genus *Vareca* belong to three distinct genera. Of the first of these, *Vareca Moluccana*, he gives from Roxburgh's specimens the character of the female, which alone appears to have been grown in the Calcutta Garden; Mr. Brown had already, in Dr. Wallich's List, referred the second, *V. lanceolata*, to *Pentaloba*, Lour.; and the third, *V. heteroclita* (also referred by Dr. Wallich to *Pentaloba*), forms a new and very distinct genus in the same remarkable tribe of *Violarieæ*.

The elegant Melastomaceous genus, called *Sonerila* by Roxburgh, forms the subject of the forty-fourth article. The species figured is the *Sonerila tenuifolia*, Bl. The natural relations of this genus were at first strangely misunderstood. Mistaking an expression of Roxburgh's, Sprengel referred it to *Burmanniæ*; and Don, having mixed up with it a species of *Argostemma*, described it as monopetalous, *sui ordinis*, *Ericeis affine*. Dr. Wallich, however, restored it to its proper position among *Melastomaceæ*. In the subdivision of that family into tribes, it has since been variously placed by different authors; but Mr. Bennett is inclined to regard it as having no close affinity with any other genus of the family, except *Sarcopyramis*, Wall., with which it agrees in all its essential characters, and from which it differs only in points of minor importance. The most remarkable of these characters consists in the opposition of the cells of the ovarium to the teeth of the calyx, which in this case (as in others previously noticed) "appears to be only of generic value; for although it is found in some other Melastomaceous genera with isomerous ovaria, the ordinary relation is also of frequent occurrence in the family, and the difference bears no relation to what appear to be its natural divisions. But combined with this structure there also occurs, in *Sonerila* and *Sarcopyramis*, a curious modification of the apex of the ovarium, which is surmounted by fleshy scales, opposite to the petals and equal to them in number, between which and the free limbus of the calyx-tube the anthers are lodged in their early and deflected stage. These scales, which are at first of small size, become (as the capsule ripens) gradually enlarged, thickened, and of a coriaceous texture." The characters of *Sarcopyramis* are given and compared with those of *Sonerila*, and a synopsis of the species of the latter, as far as known to the author, concludes the article.

The next article concludes the third part of the work. It is a most important memoir by Mr. Brown on the tribe *Sterculiæ*, a new genus of which, named by the author *Pterocymbium*, forms the groundwork of the article. Mr. Brown gives first an elaborate historical account of the tribe, and especially of the genus *Sterculia*, from its formation to the present time, accompanied by critical notes on the successive modifications introduced by

the numerous authors who have treated of it as a whole, or who have made additions to our knowledge of its parts. This is followed by some general observations on the relative importance of the different organs in the formation of genera; in the course of which are noticed some remarkable deviations from the ordinary rule which attaches the highest value to the direction of the embryo with relation to the umbilicus of the seed, and a startling anomaly (not easily reconcileable with the views hitherto entertained of the mode in which a change is effected in the relative position of the foramen of the ovulum) is for the first time pointed out. We copy the passage in which this remarkable phænomenon is described.

“The direction of *Embryo*, with relation to the insertion or umbilicus of the seed, appears to be by far the most important character, or that which is best supported by other modifications of structure; and it is worthy of remark, that in this point the ordinary direction of the embryo in the tribe, namely, the radicle seated at the opposite extremity or apex of the seed, is itself a deviation from the more usual structure of Phænogamous plants, and an exception not only to the other tribes of *Sterculiaceæ*, but to the whole of the natural class *Malvaceæ*, to which that order belongs; and it becomes still more remarkable in regard to the state of the unimpregnated ovulum, which I have some reason to believe is not orthotropous as might be expected, and as it has been described, but apparently anatropous, and that perhaps in the whole tribe. As, however, my observations on this subject are entirely made from the macerated ovaria of dried specimens, the statement here made must be received as requiring confirmation from the examination of living plants, and of a greater number of species*.

“From this ordinary direction of embryo in the tribe the deviations are of two kinds: the first, and no doubt the more important, is that in which the radicle is placed at a point close to the umbilicus, which is the most general structure in Phænogamous plants; but as it never points directly within the umbilicus, either in this or any other family, I have modified the expression generally employed in such cases. The second deviation is where the umbilicus is placed on or near the middle of the ripe seed with the radicle pointing to its lower extremity; in other words, where the embryo is parallel to the umbilicus. But this position of umbilicus of the ripe seed does not necessarily imply

* “The species of *Sterculia*, in which I have found this unexpected position of foramen in the unimpregnated ovulum, are *fætida*, *guttata*, *carthaginensis*, *nobilis* and *angustifolia*; and in the ripe seeds of *tragacanthæ*, *urens*, *villosa* and *quadrifida*, an indication of a lateral foramen near the base is still visible, but which in *fætida* I have not been able to detect.”

an exactly similar insertion in the unimpregnated ovulum; and in this tribe I am inclined to believe, that in many cases the foramen of the ovulum is so close to the umbilicus as to appear anotropous, and that it ultimately becomes more distant from the unequal growth of the opposite extremities of the seed."

The characters of the tribe *Sterculiæ*, and a synopsis of the genera and species belonging to it, complete the article. Of the genera, three, viz. *Tetradia*, *Pterocymbium* and *Courtenia*, are entirely new, as is also a genus of doubtful position described under the name of *Micrandra*. The whole number of species referred to the tribe is sixty-seven, of which thirty-three are now for the first time described.

PROCEEDINGS OF LEARNED SOCIETIES.

LINNÆAN SOCIETY.

Anniversary Meeting.

May 24, 1844.—The Lord Bishop of Norwich, President, in the Chair.

The President opened the business of the Meeting, and the number of Members whom the Society had lost during the past year having been stated, the Secretary proceeded to read the following notices of some among them.

The deaths among the Fellows have amounted to eight. Among these the first name is that of

William Allen, Esq., a gentleman more distinguished by his investigations in experimental philosophy than by the pursuit of natural history, and still more by that active and unwearied benevolence which has identified his name with almost every recent effort for the amelioration of the condition of mankind. Of such a man we cannot but feel a pleasure in recording that he was for forty-two years a Fellow of this Society, and that, however occupied in other pursuits, he never ceased to take a warm interest in botanical investigations.

His business being that of a chemist, Mr. Allen's attention was naturally directed to that science; and in conjunction with Mr. Pepys he published several valuable chemical papers in the 'Philosophical Transactions' of the Royal Society, of which he became a Fellow in 1807. The first of these, "On the quantity of Carbon in Carbonic Acid and on the Nature of the Diamond," was published in 1807; and was succeeded in 1808 and 1809 by two papers "On the changes produced in Atmospheric Air and Oxygen Gas by Respiration," and in 1829 by another "On the Respiration of Birds,"—subjects which he and his friend Mr. Pepys illustrated by a series of the most delicate experiments.

The only paper contributed by Mr. Allen to our own Transactions was read in May 1805, and contains an account of some experiments made by him on a substance called *Dapéche*, sent to Sir Joseph Banks from South America by M. de Humboldt, which, although very dif-